Remarks

Claims 1-6, 14-15 and 21-27 are pending. Claims 1 and 6 are amended. Claims 2,3 and 15 are original, claims 14 and 21-27 were previously presented and claims 4-5, 7-13 and 16-20 are cancelled.

35 USC 112 Rejection

Claims 1-6, 14-15 and 21-27 are rejected under 35 U.S.C. 112, second paragraph as being indefinite. This rejection was in response to a recitation added to claim 1 made in Applicant's response dated 9/30/2010. With this amendment, this recitation has been removed. Applicant respectfully requests that this rejection be withdrawn.

35 U.S.C. 102/103 Rejections

Claims 1-3, 14-15, 24 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 752603 to W.L. Gore and Associates as evident from the article by Dement'ev et al titled "Poisson's Ratio of Foamed Plastics."

Also, claims 1-3, 15, 24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/36820 to SUN Microsystems Inc. in view of with US 4,107,354 to Wilkenloh et al or W.L. Gore (as evident from the article by Dement'ev et al titled "Poisson's Ratio of Foamed Plastics.")

None of the above references were applied against dependent claims 4 and 5. Since independent claim 1 has now been amended to incorporate the limitations of claims 4 and 5, Applicant submits that these rejections may no longer be applied to independent claim 1 and all claims dependent therefrom, and respectfully requests that these rejections be withdrawn.

Claims 1-4, 15 and 21-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 660082 to Andrew A.G. as evident from the article by Dement'ev et al titled "Poisson's Ratio of Foamed Plastics." Additionally claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 660082 to Andrews A.G. in view of US 5,706,175 to Takei as evident from the article by Dement'ev et al titled "Poisson's Ratio of Foamed Plastics."

Andrew A.G. teaches a coil mounting arrangement for a fiber optic gyroscope in which the sensing coil of the gyroscope is wholly or partially surrounded by a gel. The gel is provided to protect the sensing coil from temperature changes and different thermal expansion rates of the coil and a housing of the gyroscope. Beginning in paragraph [0027], Andrew A.G. discusses controlling the specific gravity, or density, of the gel by adding solid or hollow microspheres and that the "loading of the gel also increases the viscosity and stiffness of the gel." In paragraph [0030], Andrew A.G. teaches that the particles are "preferably of silica but other particles are available." In other words, the hollow microspheres are essentially made of glass which is not typically considered "compressible." Most significantly, in paragraph [0038], Andrew A.G. states that "the particle loading will increase the bulk modulus...of the gel."

In contrast, Applicant's claims recite the introduction of hollow, compressible microballoons to a polymeric material in order to reduce the bulk modulus. Clearly, Andrew A.G. does not teach or suggest the invention described in claim 1. Specific recitations in Andrew A.G. with regard to dimensions of the particles are meaningless in view of the fact that the particles have a completely different function in the gel than that of the microballoons recited in Applicant's claims.

With regard to Takei, this reference teaches the addition of hollow spheres to an insulating medium used when packaging a printed circuit board. As shown in Figures 1 and 2, semiconductor chip 11 is mounted on a printed circuit board 10. The board is then placed in a

mold 21, 22 while a resin is injected to seal the electrical connection of wires 13 to the semiconductor chip 11. Insulator 14 is used to provide a level surface during the injection of the resin so it doesn't leak out of the mold. Spheres 15 are added to increase the thermal expansion of the insulating material to achieve this effect. As noted in column 4, lines 21-26, the microballoon, or resist, material 14 is designed to "expand when heated to have a sphere diameter increased from 5 to 30 m to 10 to 100 m." This is exactly the opposite of Applicant's claims. As recited in claim 1, the microballoons are designed to compress when buffering a sensor fiber, not expand. This is because the polymeric material of the claims is designed to buffer a sensor fiber when the sensor fiber itself expands and contracts, i.e. when the sensor fiber expands, the polymeric material gives way, or compresses, so as to not put pressure on the sensor fiber. This is explained in the specification on page 2, lines 3-12 and page 5, lines 8-16, for example. For this reason, Takei's teaching of an insulating material that expands clearly does not teach or suggest the claimed invention and it is respectfully requested that this rejection be withdrawn.

The Dement'ev article is described in the Office Action dated January 13, 2010 as describing Poisson's ratio, an inherent property of rubber-like polymers. It does not teach or suggest the specific recitations found in claim 1.

Conclusion

In view of the above amendments and remarks, allowance of all claims pending is respectfully requested. If a telephone conference would be of assistance in advancing the prosecution of this application, the Examiner is invited to call Applicant's attorney.

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